

Developing a common understanding of taxonomy for fisheries management in north Vella Lavella, Solomon Islands

*Philippa Cohen^{1,2}, Scotta Tapala³, Alik Rikio³, Elton Kukiti³, Frederick Sori³,
Zelda Hilly¹, Timothy J. Alexander^{1,4}, Simon Foale⁵*

Introduction

Natural resources throughout the Pacific are increasingly being managed through community-based and collaborative arrangements. Arrangements for coastal ecosystems in particular are often developed by local communities in partnership with government, research and / or non-governmental organisations (Govan 2009). These collaborative initiatives seek to combine traditional and local knowledge and institutions with contemporary science and management practices.

Many scholars have highlighted the importance of local and traditional institutions and knowledge to contemporary management efforts in the Pacific (e.g. Hamilton and Walter 1999; Hvding 1991; Johannes et al. 2000). Understandings of reproduction, behaviour and movement patterns of fish and invertebrates affect how people think about the causes of resource decline, the impacts of fishing, and the likely effects of management. However, local and traditional ecological knowledge is often focused on ways of maximising catch and fishing efficiency (Foale 1998b). Therefore, for objectives associated with improved long-term sustainability, scholars argue that local and traditional knowledge should be integrated with contemporary “western” fisheries science and management practices (Foale et al. 2011). The process of integrating local and contemporary knowledge systems will influence the “fit” of management to the local context, and whether management is considered by all parties to be community-driven and participatory. This can, in turn, influence the longer-term success of management.

It is increasingly recognised that in many situations people who use and rely on natural resources also possess the rights to implement management, as well as the expertise to inform management (Berkes 2009). In addition, for management solutions to

be both appropriate and effective they must adapt to both different contexts and through time as circumstances change or new information becomes available. These are the foundations of adaptive community-based and co-management approaches (Olsson et al. 2004). Within the framework of co-management, participatory action research seeks to take these ideas a step further in explicitly recognising local experts as research partners in ongoing, and relatively long-term, management and learning. In this regard we take insight from Drew (2005), who suggests that “the use of traditional ecological knowledge in a conservation [or resource management] program is not about a one-time extraction of information. Instead, its use presents the opportunity for a long-term collaboration and development of information”. For the management of marine resources, a fundamental and essential starting point is to develop a common understanding of local fish and invertebrate nomenclature, etymology and taxonomic systems (Ruddle 1994).

In this study, researchers from WorldFish (an international, non-profit research organisation) worked with local fisheries experts to document local language names and etymology of marine fishes and invertebrates. This inventory of local names was then aligned with their Latin names and the scientific (i.e. Linnaean) taxonomic classification. In this paper we reflect on the importance of management partners having a good working knowledge of local nomenclature and etymologies for effective management, collaboration and participatory action research.

Study site and methods

Research was conducted in three villages in the Jorio region in the north of Vella Lavella Island (Fig. 1). North Vella Lavella is the focus of ongoing partnerships between WorldFish and local communities to establish community-based adaptive

¹ WorldFish, P.O. Box 438, Honiara, Solomon Islands. Ph: +677 250 90, Fax: +677 232 96, email: p.cohen@cgiar.org

² ARC Centre of Excellence for Coral Reef Studies, James Cook University, Townsville, Australia

³ Leona and Paramatta Resource Management Committee, Vella Lavella, Solomon Islands

⁴ Department of Fish Ecology and Evolution, Centre of Ecology, Evolution and Biogeochemistry, EAWAG Swiss Federal Institute of Aquatic Science and Technology, Kastanienbaum, Switzerland

⁵ Department of Anthropology, Archaeology and Sociology, School of Arts and Social Sciences, James Cook University, Townsville, Australia

management of marine resources. This collaborative management process has been underway since 2008. In its early stages, consultations with the community focused on local governance systems, resource status and fisheries issues. These formed the foundations of further discussions to develop and implement appropriate management arrangements. As part of these arrangements, data collection, monitoring and reviewing were implemented to build knowledge, promote learning-by-doing, and facilitate adaptive management. Developing an understanding of local language and taxonomies was both a preliminary and an ongoing activity.

The language spoken on Vella Lavella is Vekala, encompassing Bilua (pronounced “mbilua”), which is the most common and best-described dialect. The name Bilua is most often used (more commonly than Vekala) to refer to the language of Vella Lavella (Obata 2003). Speakers distinguish the particular form of Bilua spoken in Jorio (and three other regions of north Vella Lavella) by its “singing tone”, and consider other dialects to be more monotonous. The earliest attempts to document Bilua were by Methodist missionaries who compiled a dictionary to aid in translating the Bible (Methodist church, circa 1950s). From an anthropological and linguistic perspective, Bilua is particularly interesting because it is one of relatively few Papuan languages in Solomon Islands (i.e. most languages are Austronesian). This indicates that it did not originate from the Austronesian migration, but rather from a single language spoken on the New Guinea mainland about 50,000 years ago, which over time diverged into Papuan languages (Lynch 1998; Obata 2003).

In several survey periods between 2010 and 2013 (totaling three months) fish and invertebrate landings were recorded using local species names. Sampling was conducted mostly by youths from the communities with an interest in management. These local researchers were provided with training, and worked alongside World-Fish researchers. For each landing, the catch was recorded using Bilua names. Throughout the same research period unstructured interviews were also conducted with key informants (approximately 10) and informal focus group discussions (approximately 10) were held with fishers to further document and understand the Bilua naming system.

Interviews and discussions were conducted in Pijin. To prompt and guide discussions we used names of fish and invertebrates identified in catch surveys, and photographic books with taxonomic descriptions for fish (Allen et al. 2003), invertebrates and marine plants (Allen and Steene 1994). In these discussions, we aimed to determine or verify spelling and pronunciation, species included in each local taxon, relationships between taxa (e.g. whether they were classed in the same “family”), etymology (i.e. origins and meaning of the name), and any variations in names. Most discussions were held with groups of men or with mixed groups; however, species targeted by gleaning were verified in discussions with women only. We also explicitly sought older respondents, particularly in the later stages of the data collection, to verify names and etymology. There are some limitations to our method of using photographs to prompt names, which may be unreliable in some cases. Therefore, where possible we also verified local names with fishers at landing sites by observing examples of freshly caught fish.

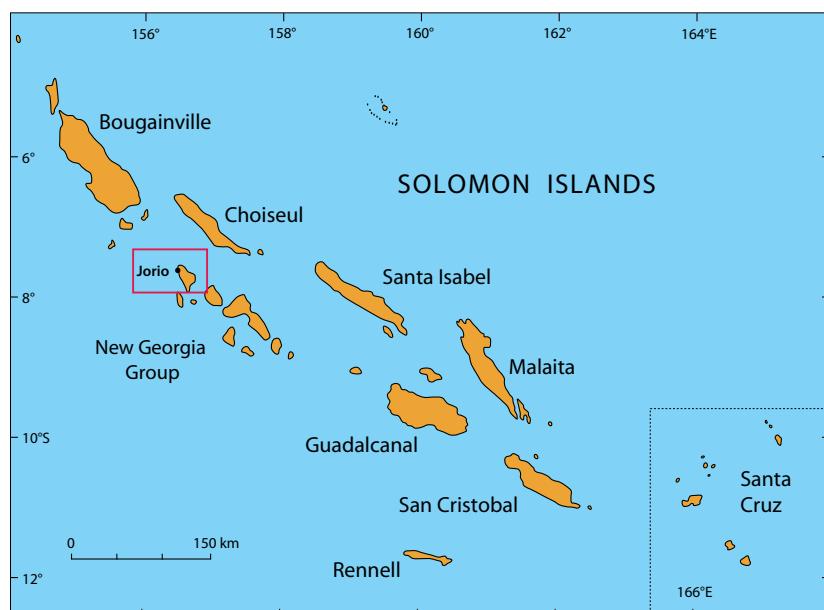


Figure 1. Location of the study region of Jorio in north Vella Lavella, Solomon Islands.

Results

Pronunciation was found to be consistent with that described by the Bilua dictionary (Methodist church, ca 1950s). Vowels are pronounced as follows: “a” as in *far*, “e” as in *end*, “i” as in *see*, “o” as in *low*. Consonants “b”, “d” and “j” are pre-nasalised as (mb), (nd) and (nj), respectively. “N”, “ng” and “q” are pronounced as n as in *not*, ng as in *sing* and ng as in *linger*, respectively.

We documented 139 unique Bilua names for bony and cartilaginous fishes and 62 for crustaceans,

molluscs, algae and others organisms (Appendix 1), and were able to document etymologies for 48 of those names. In many cases where etymology was not given, respondents were unable to explain the origins of the word and answered that “this is just a name” and/or stated that the elders must have had their reasons for choosing and using that name but they did not have that knowledge now. For names where etymology was provided, most referred to morphology ($n = 17$) or colour ($n = 13$) of the fish or invertebrate. The remaining etymologies related to behaviour ($n = 7$), habitat ($n = 2$), ecology ($n = 1$), taste ($n = 1$) or function ($n = 1$) (i.e. of a shell for scraping). In several cases, meanings of the name could be provided, but respondents were unclear how that meaning related to the fish or invertebrate. We identified four species for which different Bilua names were assigned based on size (Figure 2).

Discussion

There have long been concerns across the Pacific about the demise of ecological knowledge of historical or cultural origins (Johannes 1981). Indeed, this is one reason why documenting local ecological knowledge is considered to be so important (Foale 2006; Johannes et al. 2000). The etymological data we collected were not as rich as those captured by similar studies in other provinces of Solomon Islands (Foale 1998b; Hvding 2005). Although further research in other areas of Vella Lavella may reveal additional etymologies, it was notable that respondents in this study frequently commented that although fishers had a comprehensive knowledge of names, the reasons for and meaning behind those names had been lost with the passing of elders. We also recorded Pijin, Roviana and eastern Vella Lavella terms used in taxonomies, and at times respondents found it difficult to clarify or identify the Bilua name used in Jorio. We were unable to determine if this is a consequence of the demise or evolution of the Bilua language. Notably however, Obata (2003) made similar

observations of the integration of Pijin with Bilua, and went on to describe the language as being “endangered”. The nomenclature presented here, therefore, represents “names in use”.

Local taxonomies can be very detailed and structurally complex. In particular, nomenclature is often richest where taxa have an economic or subsistence fisheries value (Berlin et al. 1973; Foale 1998a). Our method specifically focused on taxa recorded in catch landings, so was biased towards fish and invertebrates that had some fisheries value. Nonetheless, during discussions where books were used as prompts, we also found that a detailed taxonomy was offered for groups of species of direct fisheries value, with less detail for those that were not. For example, 15 different names were provided for snappers, whereas only one was offered for gobies.

International publications or comparisons of ecological responses to fisheries management that span regions may require species to be identified with a Latin/Greek name and scientific (Linnaean) taxonomic naming systems. Translation of local names to corresponding scientific names may be straightforward for single species fisheries. However, throughout the Pacific, small-scale fisheries are typically multi-species. Translating data collected using local taxonomies into corresponding species is either complicated or impossible because a single species may have multiple local names, or a local name may include multiple species. Bilua names aligned with a single species in 64 cases of fish and 36 cases of non-fish species. Two or more individual species were lumped into one Bilua name in 59 cases of fish and 2 non-fish species. A generic, genus or family level Bilua name applied to fish in 19 cases and to non-fish species in 16 cases. We also found another dimension to nomenclature in that names aligned with species were also split into size classes in several cases (Fig. 2 and *Dermochelys coriacea*, *Bolbometopon muricatum* and *Monotaxis grandoculis*).

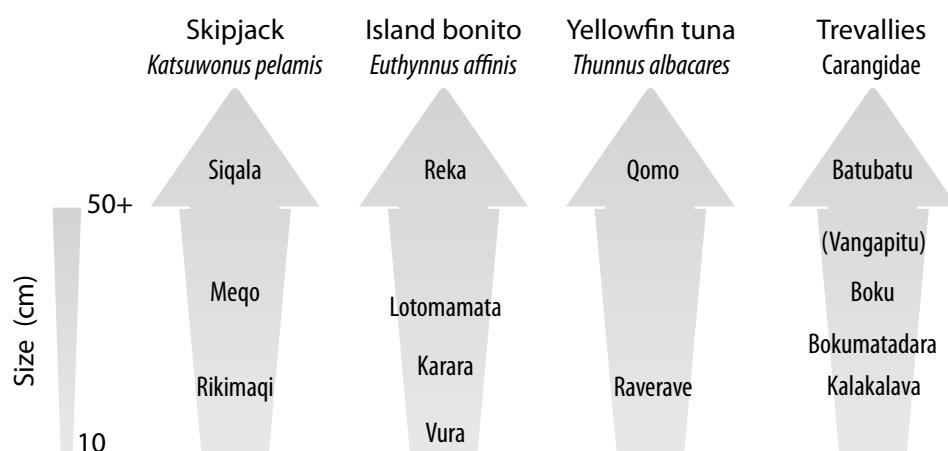


Figure 2. Species and size-structured Bilua naming system for skipjack, island bonito, yellowfin tuna and trevally. Some respondents suggested that the smaller and larger form of vangapitu is boku and batubatu, respectively. Yet, kalakalava and bokumatadara are considered to be different from vangapiku, thus their larger size classes are boku and bokumatadara, respectively.

There are difficulties in translating data collected using local taxonomies into internationally acceptable, scientific nomenclature, and this may restrict species-level analyses or comparisons (of fisheries data for example) across geographies. Nonetheless, the use of local names in this research programme still allowed for the scientific exploration and publication of family level fisheries data (e.g. Cohen and Alexander 2013). Additionally, using local taxonomies allowed for higher levels of local participation in data collection, interpretation and reporting. When research on multi-species fisheries insists on the use of scientific naming systems, only individuals with a high level of standard scientific training can fully participate. Therefore, where scientific nomenclature is used exclusively for data collection, research and monitoring, this will necessarily minimise local involvement and knowledge input, and may therefore be detrimental to the level of participation considered essential for community-based adaptive management approaches. Working with both scientific and local nomenclature has substantial benefits for both research and participation.

This work provided an important foundation for an ongoing partnership of learning about local fisheries, local understandings of fisheries, and assessing management performance in north Vella Lavella. The research represents an early step in a participatory action research partnership between WorldFish and communities in Vella Lavella, where community representatives are considered as co-researchers. Although the results of this study are of most direct value to research and management conducted in Vella Lavella, the research strategy and methodology are relevant to improving the collaboration and learning that are essential given the importance of community-based management throughout the Pacific.

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Appendix 1 – Bilua language (north Vella Lavella) marine taxonomy

1. Bony fish (generic name for fish is niuniu)

Acanthuridae – surgeonfish

Seki: *Acanthurus pyroferus*, *Acanthurus nigrofasciatus*, *Acanthurus olivaceus*, etc.

Comments: Includes numerous acanthurids, but certain species are named "berava" and "sibi".

Berava: *Acanthurus lineatus*
Etymology: "berava" also refers to plate coral, perhaps in reference to the similarly flat and round shape and/or the stripes.
Comments: Type of seki.

Sibi: *Acanthurus olivaceus*, *Acanthurus achilles*, *Acanthurus leucocheilus*, etc.

Etymology: "sibi" = black, referring to the body colour
Comments: Type of seki. Sibi are larger seki.

Seqepe: *Naso lituratus*

Pakesana: *Naso unicornis*, *Naso brachycentron*

Kobai: *Acanthurus auranticavus*, *Acanthurus bariene*, *Acanthurus dussumieri*, etc.

Comments: Type of seki. Kobai are larger seki.

Toqilo: *Acanthurus triostegus*
Etymology: "toqilo" = "to pick" or "poke", referring to the way this fish eats.

Comments: Also referred to as "koelava" although "toqilo" is the name from the region. Not considered to be a type of seki.

Koelava: *Acanthurus triostegus*
Comments: Also referred to as "toqilo", "koelava" is the name from eastern Vella Lavella. Not considered to be a type of seki.

Parameqo: *Naso hexacanthus*, *Naso lopezi*, *Naso annulatus*, etc.
Etymology: "para" = type of tree, "meqo" = a striped belly (such as that of bonito)
Comments: Some people used the name "kokoapa".

Balistidae – triggerfish

Bubuku: *Balistapus undulatus*
Comments: May include other species.

Barubaru: *Melichthys vidua*, *Melichthys indicus*, *Melichthys niger*

Comments: Type of bubuku.

Narataka: *Odontus niger*

Etymology: "nara" = dirty, "taka" = teeth
Comments: Type of barubaru and bubuku.

Paqole: *Balistoides viridescens*, *Balistoides conspicillum*, *Pseudobalistes fuscus*, etc.
Etymology: "qole" = "old man" or "old woman"

Comments: Type of barubaru and bubuku. Full name may be "petu paqole"; sometimes also referred to in Roviana as "makoto".

Pisuka paqole: *Pseudobalistes flavimarginatus*
Etymology: "pisuka" is the name of a red-orange coloured fruit, and this refers to the orange mouth.
Comments: Type of paqole.

Kororo: *Rhinecanthus aculeatus*, *Rhinecanthus lunula*, *Rhinecanthus rectangulus*, etc.
Comments: Type of bubuku.

Caesionidae – fusiliers

Zaruniuniu: Generic name for Caesionidae
Etymology: "zaru" = reef, and "niuniu" = fish, refers to the fish associating with the reef.

Qajolo: *Gymnochaesio gymnoptera*

Vaqosipuku: *Caesio cuning*, *Caesio teres*, *Caesio xanthonota*
Etymology: "vaqo" = yellow, "sipiku" = tail
Comments: Type of zaruniuniu. Also referred to as "manovaki ko niuniu" or "manovaki niuniu", as in the fish that the manovaki bird (i.e. sea eagle) eats; "manovaki ko niuniu" also applies to *Cheilinus trilobatus*.

Scaridae – parrotfish

Leozo: *Chlorurus strongycephalus*

Sivoli: *Cetoscarus bicolor*, *Scarus prasiognathos*, *Scarus rubroviolaceus*, etc.

Comments: Name is general to blue parrotfish. Also referred to as “bulu niuniu” = “blue fish”.

Nioulao: *Scarus oviceps*, *Scarus schlegeli*, *Scarus psittacus*, etc.

Comments: A general name referring to the initial small, brown phase of parrotfish.

Pusana: *Chlorurus bleekeri*, *Scarus prasiognathos*, *Calotomus carolinus*

Kajova: *Hippocarbus longiceps*

Tobele: *Bolbometopon muricatum*

Comments: The largest tobele is referred to as “leozo”.

Leozo: *Bolbometopon muricatum*

Comments: Smaller leozo are referred to as “tobele”.

Chaetodontidae – butterflyfish

Patileko: Generic name for *Chaetodon* spp.

Etymology: “pati” = “nut”, “leko” = “leaf”, similar to the leaf of the small ngali nut “pati” tree, referring to the way the fish moves, is similar to how the leaves of the pati tree fall.

Comments: Name covers all butterflyfish.

Ephippidae – batfish

Kobekolo: Generic name for all *Platax* spp.

Holocentridae – soldierfish and squirrelfish

Sori: Generic name for Holocentridae.

Diri sori: *Myripristis kuntee*, *Myripristis botche*, *Myripristis berndti*, etc.

Etymology: “diri” = red

Vape sori: *Myripristis adusta*, *Myripristis violacea*, *Myripristis amaena*, etc.

Etymology: “vape” is a kind of river fish with silvery scales, and therefore “vape” distinguishes these from those that are red (i.e. diri sori).

Meqo sori: *Neoniphon argenteus*, *Neoniphon sammara*

Etymology: “Meqo” refers to tuna, and so “meqo sori” refers to those that are tuna-shaped

Comments: Type of sori. This name is not universally recognised.

Tarasi: *Sargocentron spiniferum*, *Sargocentron violaceum*

Comments: Type of sori. Name refers to only these two species that have a distinguishing spike.

Labridae – wrasses

Manovaki ko niuniu: *Cheilinus trilobatus*

Etymology: “manovaki” = sea eagle, “niuniu” = fish, therefore the name is given as this fish is eaten by sea eagles.

Mosi: *Halichoeres melanurus*, *Thalassoma hardwike*, *Halichoeres richmondi*, etc.

Siele taka: *Choerodon anchorago*, *Cheilinus fasciatus*

Etymology: “siele” = dog, “taka” = teeth

Niango: *Cheilinus undulatus*

Lethrinidae – emperors

Bavaniabara: Generic name for *Gymnocranius* spp.

Sidau: *Lethrinus semicinctus*, *Lethrinus xanthochilus*, *Gymnocranius euanus*

Misu: *Lethrinus harak*, *Lethrinus olivaceus*, *Lethrinus microdon*
Comments: Misu are a bigger type of sidau. Also referred to as “maba niuniu” (see also *Lutjanus gibbus*, referred to by same name).

Kaburu banga: c.f. *Lethrinus erythracanthus*

Etymology: “kaburu” = to bite or smash with teeth, “banga” =

cowrie shell

Comments: Type of sidau. Similar to *L. erythracanthus*, but fins are not yellow.

Pusi banga: *Lethrinus erythracanthus*

Vamunu: *Monotaxis grandoculis*
Comments: Smaller individuals are referred to as “toiroi”.

Roroi: *Monotaxis grandoculis*

Comments: Type of vamunu. Larger individuals are referred to as “vamunu”.

Lutjanidae – snappers

Ena: *Lutjanus rufolineatus*, *Lutjanus kasmira*, *Lutjanus fulviflamma*, etc.

Kalebu: *Lutjanus ehrenbergii*, *Lutjanus fulviflamma*

Comments: Type of ena. Also referred to as kapua (name from the East of Vella Lavella), but kalebu is the correct name for west Vella Lavella.

Kapua: *Lutjanus ehrenbergii*, *Lutjanus fulviflamma*

Comments: Referred to as both kalebu and kapua, but kalebu is the correct name for west Vella Lavella.

Neneqete: *Lutjanus malabicus*, cf. *Lutjanus timorensis*

Belabela: *Etelis carbunculus*, *Etelis coruscans*, etc.

Bakese: *Lutjanus gibbus*

Comments: Also be referred to as “maba niuniu”; “maba” = man, “niuniu” = fish, but reason behind naming not clear.

Rerekesebi: *Lutjanus semicinctus*

Jopa: *Lutjanus argentimaculatus*

Pedava: *Lutjanus fulvus*, *Lutjanus lemniscatus*

Ringo: *Lutjanus bohar*

Zina: *Lutjanus rivulatus*

Qao: *Aprion virescens*

Dokuale: *Macolor niger*, *Macolor*

macularis

Etymology: “doku” = creep, but reason for name is unclear.
Comments: Also referred to as “rekoringo”.

Tatara: *Lutjanus monostigma***Meqosuto: *Aphareus furca***

Etymology: “meqo” = tuna, “suto” = mouth, refers to mouth shaped like that of a tuna.
Comments: Also may be referred to as “injomeqo”, but there was some suggestion that both these names are from the Rangonga language, the West Vella name being “belabela”.

Nemipteridae – coral breams**Doma: *Scolopsis* spp.**

Etymology: “doma” = idle or slow to move, moves to one place then goes to another

Comments: May also be referred to as “doma niuniu”.

Tapo marabau: *Scolopsis affinis*

Etymology: “tapo” means white, “marabau” means meat, referring to the white colour of the flesh.

Wui: *Pentapodus caninus*, *Pentapodus aureofasciatus*, *Pentapodus emeryii*, etc.**Nenetazutazu: *Scolopsis bilineata*, *Scolopsis lineatus*, *Scolopsis monogramma*, etc.**

Comments: Type of doma.

Haemulidae – sweetlips**Tuputupu: *Plectorhinchus gibbosus*, *Plectorhinchus picus*, etc.****Tapesu: *Plectorhinchus albovittatus*****Bekubeku: *Plectorhinchus vitattus*, *Plenctorhinchus lessoni*, *Plenctorhinchus polytaenia***

Etymology: “beku” = idol, statue or image

Sirapa: *Plectorhinchus lineatus*, *Plenctorhinchus chrysotaenia*

how sodo were distinguished, either by their long body or dark colouration.

Kyphosidae – drummers**Ruquruqu: *Kyphosus vaigiensis*, *Kyphosus bigibbus*, *Kyphosus cinerascens*****Serranidae – groupers and rockcods****Saboka: Generic name for groupers****Taiza: *Plectropomus oligacanthus*, *Variola albimarginata*, *Variola louti***
Etymology: “taiza” = a royal attribute, but respondents could not explain how this related to the naming.

Comments: Type of saboka.

Pari saboka: *Epinephelus merra*, *Cephalopholis boenak*

Etymology: “pari” = dusty or dull

Diri saboka: *Cephalopholis sonnerati*, *Cephalopholis spiloparaea*, *Cephalopholis urodetata*, etc.
Etymology: “diri” = red
Sutisuti saboka: *Epinephelus ongus*, *Epinephelus caeruleopunctatus*

Etymology: “sutisuti” = stars, which refers to the many dots on these species.

Rava: *Epinephelus lanceolatus*, *Epinephelus tukula*, *Epinephelus socialis*, etc.

Etymology: “rava” = not bright
Comments: Type of saboka. Very large rava (*E. lanceolatus*) are referred to as “pusipusilau”.

Pusipusilau: *Epinephelus lanceolatus*

Comments: Type of saboka. The biggest ones — some reported that this is never caught anymore, others suggested it could be caught.

Sodo: *Plectropomus leopardus*, *Plectropomus laevis*, *Epinephelus socialis*, etc.

Comments: Type of saboka. There was no consensus about

Diri Taiza: *Variola louti*, *Plectropomus oligacanthus*

Comments: Type of saboka and taiza. Sometimes also called “sivari baba”.

Siganidae – rabbitfish**Pazakada: Generic name for Siganidae**

Etymology: “paza” = pain and “kada” = spine, referring to the poisonous spine

Urakozo: *Siganus guttatus*, *Siganus lineatus*

Comments: Type of pazakada.

Ziaka: *Siganus corallinus*, *Siganus doliatus*, *Siganus puellus*

Comments: Type of pazakada

Kodiki: *Siganus argenteus*, *Siganus javus*, *Siganus luridus*, etc.

Comments: Type of pazakada

Mugliidae – mullets**Lipa: *Liza vaigiensis*, *Neomyxus leuciscus*, *Crenimugil crenilabis***

Etymology: This is the Pijin/Austronesian word for mullet

Mullidae – goatfish**Obu: *Parupeneus barberinoides*, *Parupeneus barberinus*, *Parupeneus bifasciatus***

Comments: May be generic name for *Parupeneus* spp.

Scombridae – tunas and mackerels**Reka: *Euthynnus affinis***

Comments: Largest size of the island bonito.

Lotumamata: *Euthynnus affinis*
Comments: Second largest size of island bonito.
Karara: *Euthynnus affinis*

Comments: Third largest size of island bonito.

Vura: *Euthynnus affinis*

Comments: Smallest size of island bonito.

Qomo: *Thunnus albacares*

Comments: Large yellow fin tuna; if small it is referred to as "raverave".

Raverave: *Thunnus albacares*

Comments: Small yellow fin tuna, if larger it is referred to as "Qomo".

Siqala: *Katsuwonus pelamis*

Comments: Largest size of skipjack.

Meqo: *Katsuwonus pelamis*

Comments: Second largest size of skipjack.

Rikimaqi: *Katsuwonus pelamis*

Comments: Smallest size of skipjack.

Tangire: *Scomberomorus commerson, Grammatopodus bilineatus***Reko tangire:** *Gymnosarda unicolor*

Etymology: "reko" = female, refers to this being the female tangire.

Comments: Type of tangire.

Koloa tangire: *Acanthocybium solandri*

Etymology: "koloa" = deep, referring to the tangire being found in deep waters

Comments: Type of tangire.

Aruma: *Rastrelliger kanagurta*

Etymology: The name references (uncertain as to how) the fish fleeing as a group

Carangidae – trevallies**Boku:** Generic name for many Carangidae.

Comments: Particularly refers to the second largest sizes of boku (see Figure 2).

Vangapikutu: *Carangoides fulvoguttatus, Carangoides gymnostethus, Carangoides orthogrammus*

Comments: Sometimes called Vangapitu. One of the largest sizes of boku. Sometimes referred to as Vangapikutu.

Boku matadara: *Carangoides gymnostethus, Carangoides orthogrammus*

Comments: Smallest size of boku. Refers to small individuals of these species.

Kalakalava: *Carangoides oblongus*

Comments: Smallest type of boku.

Meqovilu: *Carangoides orthogrammus*

Comments: Only referred to by this name if large.

Ladosipuku: *Megalaspis cordyla*

Etymology: "lado" = stone, "sipuku" = tail, referring to the hard tail.

Lavi: *Scomberoides lisan, Scomberoides commersonianus***Tapo boku:** *Caranx lugubris*

Etymology: "tapo" = white, referring to the colour of the body.

Vaqo boku: *Carangoides bajad*

Etymology: "vaqo" = yellow, referring to the colour of the body/fins.

Luqumu boku: *Caranx melampygus*

Etymology: "luqumu" = blue, referring to the colour of the body/fins.

Morutu: *Caranx bajad, Caranx sexfasciatus***Batubatu:** *Caranx ignobilis***Lesa boku:** *Carangoides plagiotenia, Carangoides bajad*

Etymology: "lesa" = flat

Comments: Also referred to as bora boku.

Bora boku: *Caranx ferdau*

Comments: Also referred to as lesa boku.

Rupe: *Grammatopodus bilineatus* (cf.)**Itingi:** *Elagatis bipinnulatus***Anuzu:** *Selar crumenophthalmus, Selaroides leptolepis, Selar boops*

Comments: Also referred to by the Pijin name "buma".

Lobelobe: *Alectis ciliaris*

Comments: The juvenile is referred to as "zabuniuniu".

Zabuniuniu: *Alectis ciliaris*

Etymology: "Zabu" = wings, "niuniu" = fish, referring to the wing-like filaments.

Comments: The juvenile of lobelobe.

Sphyraenidae – barracudas**Sokopo:** *Sphyraena forsteri*

Comments: "alu" largest barracudas, "reqoso" middle size and "sokopo" smallest barracudas

Alu: *Sphyraena barracuda*

Etymology: "alu" = lazy, how this relates to name is not clear.

Reqoso: *Sphyraena jello***Clupeidae – herrings and sardines****Katukatu:** *Herklotichthys quadramaculatus*

Etymology: This is the Pijin name; people were unable to provide a Bilua name.

Belonidae – needlefish**Vasama:** *Platybelone platyura, Strongylura incisa, Tylosurus crocodilus***Istiophoridae – marlin****Viuruvirula:** Generic name for sailfish.**Polynemidae – threadfins****Zova:** *Polydactylus sexfilis***Pomacanthidae – angelfish****Kutipoka:** *Pygoplites diacanthus***Pomacentridae – damselfish****Poreo:** Generic name for *Chromis* spp.

Sikata poreo or kasi poreo: Generic name for *Stegastes* spp. Etymology: "kasi" = grease, "poreo" = damsels fish referring

to larger damsel fish that are caught to eat.
Comments: Type of poreo.

Punga: Generic name for *Abudefduf* spp.

Varoana: Generic name for *Amphiprion* spp.

Gobiidae – gobies

Bilau: Generic name for gobies.

Platycephalidae – giant flathead

Esoromisu: *Cymbacephalus beauforti*

Synanceiidae – stonefish

Tipo: Generic name for stonefish.

Ostraciidae – boxfish

Patuo: *Ostracion cubicus*, *Ostracion meleagris*, etc.

Terapontidae – grunters

Qurei: *Terapon jarbua*

Toxotidae – archerfish

Sieleo: *Toxotes jaculator*

Scatophagidae – scats

Titaturu: *Scatophagus argus*

2. Cartilaginous fish

Carcharhinidae, etc. – sharks and rays

Baiza: Generic name for sharks, Charcharhinidae.

Maile: Generic name for eagle ray.

Potaka: Generic name for stingray.

3. Crustaceans

Palinuridae – lobsters

Sikama: Generic name for *Panulirus* spp.

Etymology: If a person's skin is

flaking off then they are referred to as "sikama tupu" meaning changing body, "tupu" = skin.

Lado sikama: *Panulirus ferrugatus*, *Panulirus penicillatus*

Etymology: "lado" = stone, referring to the hard carapace and/or lives under coral (referred to as stone)

Avana sikama: *Panulirus versicolor*

Etymology: "avana" = pandanas, perhaps referring to long leg. Can also be referred to as "niuniu (fish) sikama" when the carapace is soft.

Portunidae and Scyllaridae – slipper lobsters

Paipu: *Scylla serrata*

Papapa: Generic name for *Parribacus* spp.

Crabs and other crustaceans

Risu: Generic name for crab (land and sea).

Pusi: Generic name for freshwater shrimp. Particular species not identified.

Talitalive: Generic name for *Atergatis* spp. (e.g. *Atergatis germanini*).

Barabatu: *Etisus splendidus*

Voruvoru: *Ocypode ceratopthalma*

Utupe: *Birgus latro*

Kabokakaboso: *Carpilius maculatus*, *Carpilius conveais*, *Calappa calappa*, etc.

Sipaiqu: *Eriphia sebana*

4. Molluscs

Bio: *Trochus niloticus*

Comments: Meat is eaten and shells are an important source of income.

Munio: *Trochus maculatus*

Lolo: *Trochus maculatus*

Comments: Pink variety. Species also referred to as "munio".

Pazu: Generic name for *Turbo* spp.

Popuape: *Turbo marmoratus* (Green snail)

Comments: Cannot find this now when gleaning.

Bilibili: *Strombus luhuanus*

Comments: Numerous in harvests when periodically harvested areas were first opened.

Bilibili ko ngiangia: *Strombus lentiginosus*

Etymology: "ngiangia" = "mum", so name infers that this shell is the mother of bilibili.
Comments: Type of bilibili.

Rasa: *Lambis lambis*, but also generic name for *Lambis* spp.

Kuili: *Charonia tritonis* (triton's trumpet)

Sipitaki: *Pteria penguin* (winged pearly oyster)

Kile: *Pinctada epidromis* (oyster)

Raqqa kuili: *Cassis cornuta* (horned helmet)

Etymology: "kuili" = horn, referring to the shape of the shell.

Soukile: *Pinna bicolor*

Bulao: *Conus betulinus*, *Conus leopardus*, *Conus litteratus*, etc. (cone shells)

Tele: *Nerita polita*

Noloqoto: *Oliva caeulea*

Banga: Generic name for cowries.

Comments: Inedible, apart from *Cypraea tigris* (for which no specific name was given).

Arovoza: *Asaphis violascens*

Kisuruqa: *Vasum ceramisum*

Taduo: Generic name for *Acanthopleura* spp. (chiton).

Evaka: *Mespilia globulus*, *Salmacis belli*, *Tripneustes gratilla* (urchins)

Molluscs from mangroves

Zarioqisi: Unidentified mollusc harvested from mangroves

Motulu: *Trachycardium orbita*

Comments: Harvested from mangroves

Sivele: *Polymesoda erosa*

Etymology: "sivele" means to scratch out, the name of any tool used to scratch out a coconut, possibly because the shell can serve this function.

Comments: Harvested from mangroves.

Roqise: cf *Pleuroplaca filamentosa*

Rabeo: cf *Trachycardium orbita*, but is found in mangroves

Tridacnidae - clams

Moso: *Hippopus hippopus*

Comments: After the tsunami (2nd April 2007) these were harder to find.

Tupitupi: *Tridacna crocea*, *Tridacna maxima*

Comments: Also referred to as "tatakiri".

Veruveru: *Tridacna squamosa*

Siavu: *Tridacna gigas*

Tatakiri: *Tridacna crocea*, *Tridacna maxima*

Comments: Also referred to as "tupitupi".

Temotemoko: *Tridacna derasa*

Squid, octopus and nautilus

Nguzo: Generic name for squid.

Comment: Note that in Pijin squid is "nuto", and in Ngella is it "nuho" (Foale 1998a).

Qae: Generic name for octopus.

Kerava: *Nautilus pompilius* (nautilus)

5. Algae**Caulerpaceae**

Revo: Generic name for Caulerpa.

Sisu revo: *Caulerpa racemosa*

Etymology: "sisu" = flower, referring to the appearance.

Tata revo: *Caulerpa serrulate*

Niru revo: *Caulerpa taxifolia*

Qameo: *Caulerpa webbiana*

Halymeniaceae

Buseo: *Halymenia* sp.

Comments: Not *Halymeniadurvillae*.

6. Other

Esoro: Crocodile

Vena: *Dugong dugon*

Comment: This is an Austrone-sian word, same name used in Ngella (Foale 1998a).

Voniu: Generic name for turtle. Comment: This is an Austrone-sian word.

Tavatolu: *Dermochelys coriacea*

Comments: There may be other names based on size, such as "bareleko".

Bareleko: Smaller or perhaps juvenile leatherback turtle (*Dermochelys coriacea*).

Etymology: "leko" = leaf. The name refers to the way the turtle can swim forward and turn back to swim in the opposite direc-tion, whereas larger or adult leatherbacks only swim in one direction.

Soro: Generic name for corals.

Berava: Refers to plate corals.

Comments: Named because it is flat — note there *Acanthurus lineatus* is referred to also as "berava", owing to its flat shape.